Slideshow
FULL DETAILS AND TRANSCRIPT

Using Graphics to Support Learning

Topic: How to Organize Your Teaching
Practice: Abstract-Concrete Connections

Highlights

- Graphics that include labels for unfamiliar parts or steps in a processes help students focus on key ideas.
- Graphics should be relevant but do not need to be realistic to be effective. They should not include distracting imagery.
- Using images or graphs can help students understand abstract concepts in a concrete way.

Full Transcript

Presentation Title: Using Graphics to Support Learning

Combining well-chosen graphs and illustrations with discussions of abstract concepts, such as process or systems, can help students better understand the ideas.

Slide #1: Images With Labeled Parts

Graphics combined with text can facilitate learning better than text alone. Images with labels pointing out important features or processes can make concepts easier to understand. Labels or descriptive text should be located close to the corresponding part of the image so students will know exactly what to focus on.

Slide #2: Illustrating Processes

When using visuals to represent procedures or cycles, such as the water cycle, talk about each of the key steps to help students focus on different aspects of the picture. An explanation of condensation, precipitation, and evaporation would help students focus on the key steps first.

Slide #3: Is Realism Always Effective?

While images need to be relevant to the concept, they do not need to be realistic to be effective. Sometimes more abstract or schematic pictures will best illustrate the idea. Photorealistic images may actually distract, rather than focus, the student. This diagram may be more effective to illustrate a specific point about earthquakes than photos from the Grand Canyon would be.

Slide #4: Eliminating Distracting Examples

Images may distract from learning if they contain interesting features not relevant to the key concepts. For example, in a lesson about lightning this image of a tree that has been struck by a lightning bolt would be a poor choice. While it shows the results of a lightning strike, it doesn't demonstrate why or how this phenomenon occurs. Students may be distracted by the power of lightning without grasping the physical science concepts at work.

Slide #5: Data, Symbols, and Relationships

Using graphs to display data or teach abstract concepts can help students make connections between symbols or procedures and the quantities and relations they represent. For example, number lines, pie charts, and bar graphs can help students master a wide range of topics and ideas. It's important to make repeated connections between the symbols, numbers, labels, and what they represent.

Slide #6: Graphic and Text Placement

Text descriptions about concepts represented with graphics need to be placed right below or next to the graphic. The physically close relationship of text to graphics assists students in making connections between the abstract concept and its description. Look for well-positioned graphics in instructional materials, especially ones used in small group discussions or in homework, where verbal guidance is not always available.